

AMENDMENT(S) TO THE SPECIFICATION

Please add a paragraph beginning at page 1, line 3:

CROSS REFERENCE TO RELATED APPLICATION

The present application is a 35 U.S.C. §§ 371 national phase conversion of PCT/SE2005/000460, filed 31 March 2005, which claims priority of Swedish Application No. 0400857-9, filed 31 March 2004. The PCT International Application was published in the English language.

Please replace the paragraph beginning at page 1, line 6, with the following rewritten paragraph:

The present invention relates to an arrangement for recirculation of exhaust gases in a supercharged combustion engine and to cooling the recirculated exhaust gases according to the preamble of claim 1.

Please replace the paragraph beginning at page 2, line 15, with the following rewritten paragraph:

~~This object is achieved with the arrangement of the kind mentioned in the introduction which is characterised by the features indicated in the characterising part of claim 1. This entails the exhaust gases being~~ Exhaust gases are cooled in a cooler by a cooling medium which is at a temperature substantially corresponding to the temperature of the surroundings. The exhaust gases can thereby be cooled to a temperature which is just above the temperature of the surroundings. The exhaust gases can thus be brought to a temperature substantially corresponding to the temperature at which the compressed air is after cooling in a conventional charge air cooler. The mixture of exhaust gases and compressed air supplied to the combustion engine is therefore not at a higher temperature than the compressed air supplied to a corresponding combustion engine not equipped with recirculation of exhaust gases. The performance of a combustion engine with an arrangement according to the present invention can therefore substantially correspond to that of a combustion engine not equipped with EGR.

Please replace the paragraph beginning at page 3, line 30, with the following rewritten paragraph:

According to another preferred embodiment, the arrangement comprises a third cooler for cooling the air in the inlet line before it is mixed with the exhaust gases from the return line. Such a third cooler is with advantage air-cooled and may be a conventional charge air cooler. ~~With advantage,~~ the ~~The~~ first cooler and the third cooler ~~are~~ may advantageously be positioned close to one another. As both the first cooler and the third cooler are air-cooled, they can be arranged at a substantially common location where ambient air flows through them. In such cases the first cooler and the third cooler may form an integrated unit. The result is a composite modular cooler unit which is easy to fit in the vehicle. The first cooler and the third cooler may take the form of flat cooler elements which each have a main extent in one plane, whereby the first cooler and the third cooler have an extent in a substantially common plane. In such cases the cooling air flows through the coolers in a direction substantially perpendicular to said plane.

Please replace the paragraph beginning at page 5, line 4, with the following rewritten paragraph:

Fig. 1 depicts schematically an arrangement for recirculation of exhaust gases in a supercharged combustion engine. The combustion engine is may in this case be a diesel engine 1. Such recirculation is usually called EGR (Exhaust Gas Recirculation). Adding exhaust gases to the compressed air which is led to the engine's cylinders lowers the combustion temperature and hence also the content of nitrogen oxides (NO_x) which are formed during the combustion processes. The diesel engine 1 may for example be intended to power a heavy vehicle. The exhaust gases from the cylinders of the diesel engine 1 are led via an exhaust manifold 2 to an exhaust line 3. The exhaust gases in the exhaust line 3, which are at above atmospheric pressure, are led to a turbine 4. The turbine 4 is thus provided with driving power which is transferred, via a connection, to a compressor 5. The compressor 5 compresses the air which is led into the inlet line 6. A charge air cooler 7 is arranged in the inlet line 6. The purpose of the charge cooler 7 is to cool the compressed air before it is led to the diesel engine 1. The compressed air is cooled in the charge air cooler 7 by ambient

air.

Please replace the paragraph beginning at page 5, line 19, with the following rewritten paragraph:

A return line 8 is intended to cater for recirculation of part of the exhaust gases from the exhaust line 3. The return line 8 comprises an EGR cooler 9 in which the EGR cooled as a first step. The return line 8 also comprises an exhaust gas cooler 10 for cooling the exhaust gases as a second step. The exhaust gases are cooled in the exhaust gas cooler 10 by ambient air. The return line 8 further comprises ~~finally~~ a valve in the form of an EGR valve 11 by which the exhaust gas flow in the return line 8 can be shut off as necessary. The EGR valve 11 can be used for ~~controlling~~ control the amount of exhaust gases led via the return line 8 to the inlet line 6. The EGR valve 11 may alternatively be situated before the EGR cooler 9 or between the EGR cooler 9 and the exhaust gas cooler 10. A control unit 12 is adapted to controlling the EGR valve 11 on the basis of information about the current operating state of the diesel engine 1. The control unit 12 may be a processor or computer unit provided with suitable software. In supercharged diesel engines 1 the pressure of the exhaust gases in certain operating situations will be lower than the pressure of the compressed air in the inlet line 6. In such situations it is not possible to mix the exhaust gases in the return line 8 directly with the compressed air in the inlet line 6 without special auxiliary means. To this end it is possible to use for example a venturi 13. If the combustion engine is instead a supercharged Otto engine, the exhaust gases can be led directly into the inlet line 6, since the exhaust gases of an Otto engine in substantially all operating situations will be at a higher pressure than the compressed air in the inlet line 6. When the exhaust gases have been mixed with the compressed air in the inlet line 6, the mixture is led via a manifold 14 to the respective cylinders of the diesel engine 1.